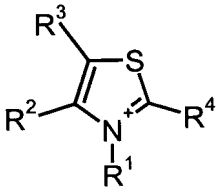
WHAT IS CLAIMED IS:

1. A compound of the formula (I)



(I),

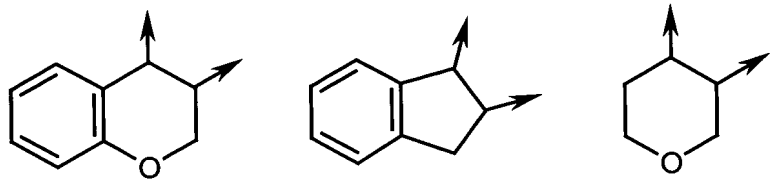
in which

R^1 represents methyl, ethyl, n-propyl, isopropyl, hydroxyl, methylsulfonyl, ethylsulfonyl, phenylsulfonyl, p-methylphenylsulfonyl, or benzyl that is optionally substituted by halogen, nitro, C_1-C_4-alkyl, or C_1-C_4-alkoxy,

R^2 represents C_1-C_4-alkyl, hydroxyl, methylsulfonyl, ethylsulfonyl, phenylsulfonyl, p-methylphenylsulfonyl, phenyl that is optionally substituted by halogen, NO_2, C_1-C_4-alkyl, C_1-C_4-halogenoalkyl, C_1-C_4-alkylsulfonyl, C_1-C_4-alkoxy, C_1-C_4-halogenoalkoxy, C_1-C_4-alkoxycarbonyl, C_1-C_4-halogenoalkoxycarbonyl, C_1-C_4-alkylcarbonyloxy, or C_1-C_4-halogenoalkylcarbonyloxy, benzyl that is optionally substituted by halogen, nitro, C_1-C_4-alkyl, or C_1-C_4-alkoxy, or pyrrolyl, thienyl, naphthyl, or benzothiophenyl, each of which is optionally substituted by halogen, C_1-C_4-alkyl, or C_1-C_4-halogenoalkyl,

R^3 represents hydrogen, methyl, or ethyl, or

R^2 and R^3 together represent $-(CH_2)_n-$ that is optionally substituted by halogen, NO_2, carboxyl, carbonyl, C_1-C_4-alkyl, C_1-C_4-halogenoalkyl, C_1-C_4-alkoxy, or C_1-C_4-halogenoalkoxy or the optionally halogen-, NO_2-, C_1-C_4-alkyl-, C_1-C_4-halogenoalkyl-, C_1-C_4-alkoxy-, or C_1-C_4-halogenoalkoxy-substituted groups having the formulas



where the arrows mark the points of linkage to the thiazole ring, and

n represents 3, 4 or 5,

R^4 represents bromine or chlorine, and

X^- represents chloride, bromide, iodide, hydrogen sulfate, ½ equivalent of sulfate, sulfate, hexachloroantimonate, methanesulfonate, trifluoromethanesulfonate, p-toluenesulfonate, tetrafluoroborate, tetraphenylborate, or hexafluorophosphate,

excluding the compounds 2-bromo-3-ethyl-4-methylthiazolium tetrafluoroborate and 2-bromo-3-ethyl-4-methylthiazolium hexachloroantimonate, 2-chloro-3-ethyl-4-methylthiazolium tetrafluoroborate and 2-chloro-3-ethyl-4-methylthiazolium hexachloroantimonate, 2-bromo-3-methyl-4-phenylthiazolium tetrafluoroborate, 2-chloro-3-ethyl-4,5-dimethylthiazolium tetrafluoroborate, and 2-chloro-3,4-dimethylthiazolium tetrafluoroborate.

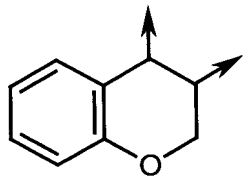
2. A compound of the formula (I) according to Claim 1 wherein

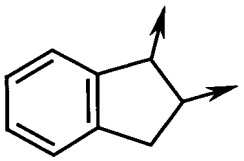
R^1 represents methyl, ethyl, n-propyl, hydroxyl, methylsulfonyl, ethylsulfonyl, or benzyl that is optionally substituted by fluorine and/or chlorine, methyl, ethyl, n- or i-propyl, trifluoromethyl, methoxy, ethoxy, or n- or i-propoxy,

R^2 represents methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, isobutyl, or benzyl or phenyl that is optionally substituted by fluorine and/or chlorine, methyl, ethyl, n- or i-propyl, methoxy, ethoxy, or n- or i-propoxy,

R^3 represents hydrogen or methyl, or

R^2 and R^3 together represent $-(CH_2)_n-$ substituted by fluorine and/or chlorine, methyl, ethyl, trifluoromethyl, methoxy, ethoxy, or carbonyl or the groups having the formulas





, and

n represents 3 or 4,

R^4 represents bromine, and

X^- represents bromide, ½ equivalent of sulfate, sulfate, $SbCl_6^-$, mesylate, triflate, tosylate, tetrafluoroborate, tetraphenylborate, or hexafluorophosphate.

3. A compound of the formula (I) according to Claim 1 wherein

R^1 represents methyl, ethyl, methylsulfonyl, ethylsulfonyl, or benzyl that is optionally substituted by fluorine and/or chlorine,

R^2 represents methyl, ethyl, n-propyl, n-butyl, or phenyl that is optionally substituted by fluorine and/or chlorine, methyl, or ethyl,

R^3 represents hydrogen, or

R^2 and R^3 together represent $-(CH_2)_n-$ that is optionally substituted by fluorine and/or chlorine, methyl, ethyl, or carbonyl, and

X^- represents bromide, ½ equivalent of sulfate, sulfate, or tetrafluoroborate.

4. A compound of the formula (I) according to Claim 1 wherein

R^1 represents methyl, ethyl, n-propyl, or isopropyl,

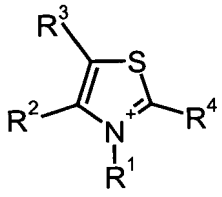
R^2 represents methyl or ethyl, and

X^- represents tetrafluoroborate.

5. A compound of the formula (I) according to Claim 1 wherein

R^4 represents bromine.

6. A process for the preparation of compounds of formula (I-1)



X'^- (I-1),

in which

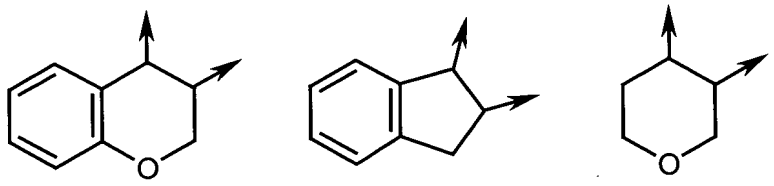
R^1 represents methyl, ethyl, n-propyl, isopropyl, hydroxyl, methylsulfonyl, ethylsulfonyl, phenylsulfonyl, p-methylphenylsulfonyl, or benzyl that is optionally substituted by halogen, nitro, C_1-C_4-alkyl, or C_1-C_4-alkoxy,

R^2 represents C_1-C_4-alkyl, hydroxyl, methylsulfonyl, ethylsulfonyl, phenylsulfonyl, p-methylphenylsulfonyl, phenyl that is optionally

substituted by halogen, NO_2, C_1-C_4-alkyl, C_1-C_4-halogenoalkyl, C_1-C_4-alkylsulfonyl, C_1-C_4-alkoxy, C_1-C_4-halogenoalkoxy, C_1-C_4-alkoxycarbonyl, C_1-C_4-halogenoalkoxycarbonyl, C_1-C_4-alkyl-carbonyloxy, or C_1-C_4-halogenoalkylcarbonyloxy, benzyl that is optionally substituted by halogen, nitro, C_1-C_4-alkyl, or C_1-C_4-alkoxy, or pyrrolyl, thienyl, naphthyl, or benzothiophenyl, each of which is optionally substituted by halogen, C_1-C_4-alkyl, or C_1-C_4-halogeno-alkyl,

R^3 represents hydrogen, methyl, or ethyl, or

R^2 and R^3 together represent $-(CH_2)_n-$ that is optionally substituted by halogen, NO_2, carboxyl, carbonyl, C_1-C_4-alkyl, C_1-C_4-halogenoalkyl, C_1-C_4-alkoxy, or C_1-C_4-halogenoalkoxy or the optionally halogen-, NO_2-, C_1-C_4-alkyl-, C_1-C_4-halogenoalkyl-, C_1-C_4-alkoxy-, or C_1-C_4-halogenoalkoxy-substituted groups having the formulas



where the arrows mark the points of linkage to the thiazole ring, and

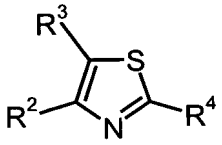
n represents 3, 4 or 5,

R^4 represents bromine or chlorine, and

X'^- represents chloride, bromide, iodide, hydrogen sulfate, ½ equivalent of sulfate, sulfate, $SbCl_6^-$, methanesulfonate, trifluoromethane-sulfonate, or p-toluenesulfonate,

comprising

(a) reacting compounds of the formula (II)

 (II),

in which R^2, R^3 and R^4 have the meanings indicated for formula (I-1),

with alkylating reagents of the formula (III)

R^1–X' (III),

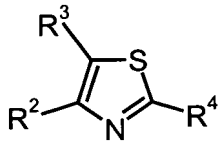
in which

R^1 has the meaning indicated for formula (I-1), and

X' represents chlorine, bromine, iodine, sulfoxy, ½ equivalent of sulfate, sulfate, $SbCl_6^-$, methylsulfonyloxy, trifluorosulfonyloxy or toluenesulfonyloxy,

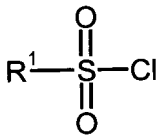
in the presence of a diluent, or

(b) reacting compounds of the formula (II)

 (II),

in which R^2, R^3 and R^4 have the meanings indicated for formula (I-1),

with sulfonating reagents of the formula (VII)

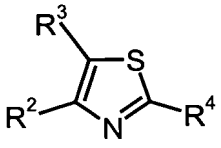
 (VII),

in which

R^1 has the meaning indicated for formula (I-1),

in the presence of a diluent, or

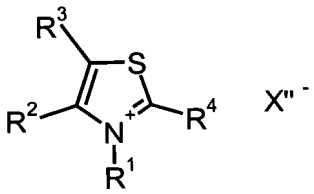
(c) oxidizing compounds of the formula (II)

 (II),

in which R^2, R^3 and R^4 have the meanings indicated for formula (I-1),

using hydrogen peroxide, peracids, or NaOCl.

7. A process for the preparation of compounds of formula (I-2)



(I-2),

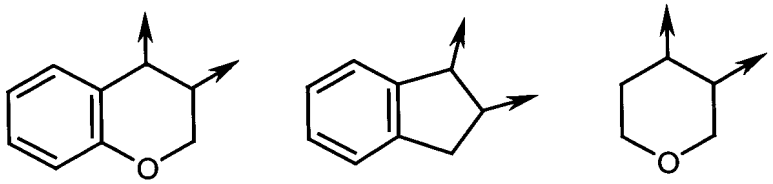
in which

R^1 represents methyl, ethyl, n-propyl, isopropyl, hydroxyl, methylsulfonyl, ethylsulfonyl, phenylsulfonyl, p-methylphenylsulfonyl, or benzyl that is optionally substituted by halogen, nitro, C_1-C_4-alkyl, or C_1-C_4-alkoxy,

R^2 represents C_1-C_4-alkyl, hydroxyl, methylsulfonyl, ethylsulfonyl, phenylsulfonyl, p-methylphenylsulfonyl, phenyl that is optionally substituted by halogen, NO_2, C_1-C_4-alkyl, C_1-C_4-halogenoalkyl, C_1-C_4-alkylsulfonyl, C_1-C_4-alkoxy, C_1-C_4-halogenoalkoxy, C_1-C_4-alkoxycarbonyl, C_1-C_4-halogenoalkoxycarbonyl, C_1-C_4-alkylcarbonyloxy, or C_1-C_4-halogenoalkylcarbonyloxy, benzyl that is optionally substituted by halogen, nitro, C_1-C_4-alkyl, or C_1-C_4-alkoxy, or pyrrolyl, thienyl, naphthyl, or benzothiophenyl, each of which is optionally substituted by halogen, C_1-C_4-alkyl, or C_1-C_4-halogenoalkyl,

R^3 represents hydrogen, methyl, or ethyl, or

R^2 and R^3 together represent $-(CH_2)_n-$ that is optionally substituted by halogen, NO_2, carboxyl, carbonyl, C_1-C_4-alkyl, C_1-C_4-halogenoalkyl, C_1-C_4-alkoxy, or C_1-C_4-halogenoalkoxy or the optionally halogen-, NO_2-, C_1-C_4-alkyl-, C_1-C_4-halogenoalkyl-, C_1-C_4-alkoxy-, or C_1-C_4-halogenoalkoxy-substituted groups having the formulas



where the arrows mark the points of linkage to the thiazole ring, and

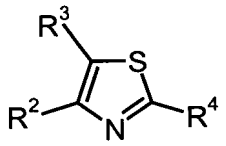
n represents 3, 4 or 5,

R^4 represents bromine or chlorine, and

X''^- represents tetrafluoroborate, tetraphenylborate, or hexafluorophosphate,

comprising

(a) reacting compounds of the formula (II)



(II),

in which R^2, R^3 and R^4 have the meanings indicated for formula (I-2),

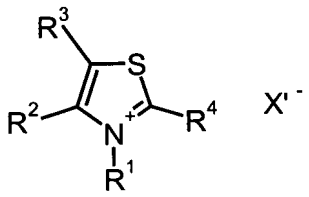
with alkylating reagents of the formula (IV)

$(R^1)_3-O^+ \ X''^-$ (IV),

in which R^1 and X''^- have the meanings indicated for formula (I-2),

in the presence of a diluent, or

(b) exchanging the anion X'^- of compounds of the formula (I-1)



(I-1),

in which

R^1, R^2, R^3, and R^4 have the meanings indicated for formula (I-2), and

X' represents chlorine, bromine, iodine, sulfoxy, ½ equivalent of sulfate, sulfate, $SbCl_6^-$, methylsulfonyloxy, trifluorosulfonyloxy or toluenesulfonyloxy,

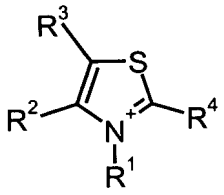
with tetrafluoroboric acid, tetraphenylboric acid, or hexafluorophosphoric acid or an anion exchanger loaded with tetrafluoroboric acid, tetraphenylboric acid, or hexafluorophosphoric acid so that X''^- has the meaning indicated for formula (I-2).

8. A condensation agent comprising a compound according to Claim 1.

9. A peptide coupling reagent comprising a condensation agent according to Claim 8.

10. A method comprising synthesizing peptides with a condensation agent wherein the condensation agent is a compound according to Claim 1.

11. A compound of the formula (I-2)



(I-2),

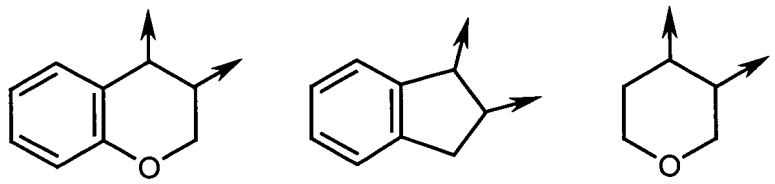
in which

R^1 represents methyl, ethyl, n-propyl, isopropyl, hydroxyl, methylsulfonyl, ethylsulfonyl, phenylsulfonyl, p-methylphenylsulfonyl, or benzyl that is optionally substituted by halogen, nitro, C_1-C_4-alkyl, or C_1-C_4-alkoxy,

R^2 represents C_1-C_4-alkyl, hydroxyl, methylsulfonyl, ethylsulfonyl, phenylsulfonyl, p-methylphenylsulfonyl, phenyl that is optionally substituted by halogen, NO_2, C_1-C_4-alkyl, C_1-C_4-halogenoalkyl, C_1-C_4-alkylsulfonyl, C_1-C_4-alkoxy, C_1-C_4-halogenoalkoxy, C_1-C_4-alkoxycarbonyl, C_1-C_4-halogenoalkoxycarbonyl, C_1-C_4-alkylcarbonyloxy, or C_1-C_4-halogenoalkylcarbonyloxy, benzyl that is optionally substituted by halogen, nitro, C_1-C_4-alkyl, or C_1-C_4-alkoxy, or pyrrolyl, thienyl, naphthyl, or benzothiophenyl, each of which is optionally substituted by halogen, C_1-C_4-alkyl, or C_1-C_4-halogenoalkyl,

R^3 represents hydrogen, methyl, or ethyl, or

R^2 and R^3 together represent $-(CH_2)_n-$ that is optionally substituted by halogen, NO_2, carboxyl, carbonyl, C_1-C_4-alkyl, C_1-C_4-halogenoalkyl, C_1-C_4-alkoxy, or C_1-C_4-halogenoalkoxy or the optionally halogen-, NO_2-, C_1-C_4-alkyl-, C_1-C_4-halogenoalkyl-, C_1-C_4-alkoxy-, or C_1-C_4-halogenoalkoxy-substituted groups having the formulas



where the arrows mark the points of linkage to the thiazole ring, and

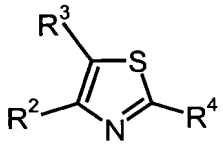
n represents 3, 4 or 5,

R^4 represents bromine or chlorine, and

X''^- represents tetrafluoroborate, tetraphenylborate, or hexafluorophosphate,

with the exception of compounds in which R^4 represents bromine and R^2 represents CH_3 when R^3 represents hydrogen or CH_3; in which R^4 represents chlorine and R^2 represents CH_3 when R^3 represents hydrogen; and in which R^4 represents bromine and R^2 represents ethyl when R^3 represents hydrogen.

12. A process for the preparation of compounds of the formula (II)



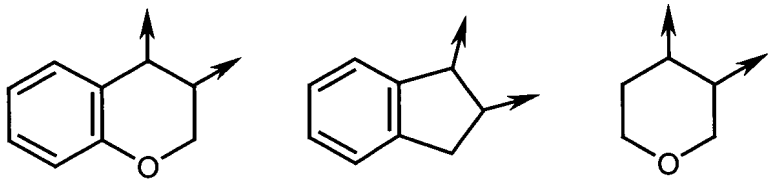
(II),

in which

R^2 represents C_1-C_4-alkyl, hydroxyl, methylsulfonyl, ethylsulfonyl, phenylsulfonyl, p-methylphenylsulfonyl, phenyl that is optionally substituted by halogen, NO_2, C_1-C_4-alkyl, C_1-C_4-halogenoalkyl, C_1-C_4-alkylsulfonyl, C_1-C_4-alkoxy, C_1-C_4-halogenoalkoxy, C_1-C_4-alkoxycarbonyl, C_1-C_4-halogenoalkoxycarbonyl, C_1-C_4-alkylcarbonyloxy, or C_1-C_4-halogenoalkylcarbonyloxy, benzyl that is optionally substituted by halogen, nitro, C_1-C_4-alkyl, or C_1-C_4-alkoxy, or pyrrolyl, thienyl, naphthyl, or benzothiophenyl, each of which is optionally substituted by halogen, C_1-C_4-alkyl, or C_1-C_4-halogenoalkyl,

R^3 represents hydrogen, methyl, or ethyl, or

R^2 and R^3 together represent $-(CH_2)_n-$ that is optionally substituted by halogen, NO_2, carboxyl, carbonyl, C_1-C_4-alkyl, C_1-C_4-halogenoalkyl, C_1-C_4-alkoxy, or C_1-C_4-halogenoalkoxy or the optionally halogen-, NO_2-, C_1-C_4-alkyl-, C_1-C_4-halogenoalkyl-, C_1-C_4-alkoxy-, or C_1-C_4-halogenoalkoxy-substituted groups having the formulas



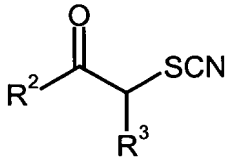
where the arrows mark the points of linkage to the thiazole ring, and

n represents 3, 4 or 5, and

R^4 represents bromine or chlorine,

comprising

(1) reacting compounds of the formula (V)

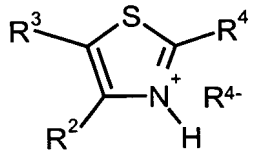


(V)

in which

R^2 and R^3 have one of the meanings indicated for formula (II),

with hydrogen bromide or hydrogen chloride in the presence of a diluent to form a compound of the formula (VI)

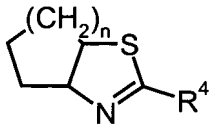


(VI)

in which R^2, R^3 and R^4 have one of the meanings indicated for formula (II) and R^{4-} is bromide or chloride, and

(2) releasing the hydrogen bromide or hydrogen chloride from the compound of the formula (VI).

13. A compound of the formula (II-1)



(II-1),

in which n represents 1 or 2.